

Remarks

Claims 1-10 are pending in the present application, each of which have been rejected in the non-final Office Action dated May 16, 2008. By this paper, Applicant amends claims 1-9 in an attempt to address the technical non-art objections and rejections made by the Office. As such, no new matter has been introduced by this Amendment. Applicant respectfully requests careful review and reconsideration of the pending claims in view of the following remarks.

Claim Objections

Claims 1-5, 8 and 9 are objected to because of several informalities. Applicant believes that the amendments contained herein correct any such informalities. Accordingly, the claim objections of claims 1-5, 8 and 9 are now believed to be moot. Should the Office find additional informalities in need of correction, the Examiner is invited to contact the undersigned at her convenience.

Indefiniteness Rejection

Claims 4 and 8 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 4 and 8 have been amended to cure their deficiencies with respect to the indefiniteness rejection. To this end, claim 4 has been amended to recite "bits with odd-numbered bit positions are combined into another type of packet." Moreover, both claims 4 and 8 now recite "an original message" to replace the term "useful information" and "original information", respectively. It is submitted that the term "an original message" is not undefined as one of ordinary skill in the art understands that when transmitting information electronically, packets of data may be sent which include information pertaining to the original message (or information to be communicated) and information related to administrative aspects of the data transfer. Accordingly, reconsideration and withdrawal of the rejection of claims 4 and 8 under 35 U.S.C. § 112, second paragraph, is respectfully requested.

Section 101 Rejection

Claims 1-10 stand rejected under 35 U.S.C. § 101 because the claimed recitation of the use, without setting forth any steps involved in the process, results in an improper definition of a process. Applicant has amended the pending claims to positively recite process (or method) steps such that the claims are now in a form recognized as providing patentable subject matter. Accordingly, reconsideration and withdrawal of the rejection of claims 1-10 under 35 U.S.C. § 101 is respectfully requested.

Obviousness Rejection

Claims 1, 2, 4-6, 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0115364, filed by Shu et al. ("Shu"), in view of U.S. Patent Application Publication No. 2004/0257250, filed by Sebire ("Sebire"). Applicant respectfully traverses this rejection because the proposed combination fails to teach or suggest each and every element of pending claims.

MPEP states that "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." MPEP § 2143.03. (citation omitted) Moreover, it is well-settled law that *each and every* claim feature must be taught or suggested by the prior art in order to establish a *prima facie* case of obviousness. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Claim 1 is directed to a method for transmitting electronic data, and includes the following steps:

preprocessing the data, at a sender's side, into N types of packets by virtue of combining every N-th ($N = 1, 2, 3, \dots$) bit into one type of the N types of packets; and
sending the N types of packets to a receiver independently of one another, with spectral separation via N networks with time-shifted transmission.

Neither *Shu* nor *Sebire* teach or suggest the aforementioned features of "combining every N-th($N = 1, 2, 3, \dots$) bit into one type of the N types of packets" and "sending the N types of packets to the receiver independently of one another, with spectral separation via N networks with time-shift transmission." At best, *Shu* discloses a method by which electronic data is sent via a network, such as the Internet, from a sender to a recipient. The data comprises various information which is broken up into packets. The packets contain, besides the useful data, addresses and rules which stipulate how the useful data can be put together to form the original message at the recipient's side. The useful data, which consists of a serial sequence of bits, is broken up in a serial fashion known as splitting. Such a partitioning might be, for an exemplary bit sequence of 0111001001010100101, a partitioning into three packets containing the useful data, i.e., 0111001, 0010101, and 0100101. Each part of the useful data in each individual packet is still readable by a third party which unauthorized access.

Such a relaying of data is vulnerable to attacks by hackers. To prevent denial of service attacks by outside persons, the useful information is encrypted as disclosed in *Shu* and the data packets are also sent by several redundant pathways with different varying addresses assigned to the hosts. (See ¶ 17.)

According to the present application, it has been discovered that, in order to enhance security of the data relayed, one should depart from the serial partitioning disclosed in *Shu*. In a technically simple, yet sophisticated manner, an enhanced security can be achieved in that the partitioning of the bits is done according to their positions in the bit sequence. Furthermore, the useful data so partitioned is routed through different networks and not just through different network pathways. Since N describes the position the bit in the bit sequence, neither are any packets created with just one bit.

Thus, the partitioning into bits occurs almost horizontally. With such a partitioning of the bits into packets, one is assured that the useful information is not readable if the packets are intercepted by an unauthorized third party. This provides a heightened security

in the network. Consequently, the present applications claims a method in which an enhanced security is made possible in the relaying data in networks.

The spectral separation of the packets, as recited in claim 1, involves the transport of the different packet types on different carrier frequencies, i.e., the available spectrum (bandwidth) is used for the transmission.

Regarding claim 1 in particular, *Shu* merely discloses a method in which the transmission of data occurs in a network. To heighten the security of the transmission, the data is provided with redundancy and broken up serially by encoding at the sender's end. Subsequently, the packets produced by this serial splitting are relayed over a corresponding number of pathways of *one* network. Moreover, *Shu* likewise fails to disclose a nearly horizontal partitioning of the useful data that is done by partitioning the individual bits of data according to their position, as is recited in the language of claim 1. Consequently, *Shu* fails to disclose or suggest the aforementioned features of claim 1. *Sebire* fails to cure the deficiencies of *Shu*.

In this regard, *Sebire* merely discloses a method of swapping bits in a packet of radio frames. *Sebire* discloses the swapping of higher prioritized bits with lower prioritized bits in a radio packet for systems that jointly interleave the higher and lower prioritized bits and allow for different interleaving depths. (§ 17.) This swapping is performed by exchanging the value of the bits at both bit positions, i.e., the bit at bit position m is assigned the value of the bit at bit position n and vice versa. The bit associated with a respective first bit position m in the data packet then equals the bit at bit position n, and the bit associated with a respective second bit position n in the data packet then equals the bit at bit position m. (§ 19.) Thus, contrary to the Office's contention, *Sebire* fails to disclose "preprocessing the data, at a sender's side, into N types of packets by virtue of combining every N-th (N = 1, 2, 3, ...) bit into one type of the N types of packets," as recited in claim 1.

Accordingly, reconsideration and withdrawal of the rejection of claim 1 and associated dependent claims under 35 U.S.C. § 103(a) for at least the reasons set forth above is respectfully requested.

It should be noted that dependent claims 2-10 are believed to be allowable for at least the same reasons as their respective base claims and further due to the additional features that they recite. Separate and individual consideration of the dependent claims is respectfully requested.

CONCLUSION

In view of the foregoing, Applicant respectfully submits that the rejected independent claim patentably defines the present invention over the citations of record. Further, the rejected dependent claims should also be allowable for the same reasons as their respective base claims and further due to the additional features that they recite. Separate and individual consideration of the dependent claims is respectfully requested.

Moreover, Applicant has made a genuine effort to respond to each of the Office's objections and rejections and advancing the prosecution of this case. Applicant believes that all formal and substantive requirements for patentability have been met and that these claims are in condition for allowance, which action is respectfully requested.

The Petition fee of \$60 is being charged to Deposit Account No. 02-3978 via electronic authorization submitted concurrently herewith. The Commissioner is hereby authorized to charge any additional fees or credit any overpayments as a result of the filing of this paper to Deposit Account No. 02-3978.

Respectfully submitted,

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